

COPY

Serial No. 09/699,080 Page 2

09/282,048 ("Chemically Synthesized and Assembled Electronic Devices"), all filed on even date herewith. The present application employs the chemical synthesis and assembly techniques disclosed and claimed in 09/09/282,048 and is used in the demultiplexer disclosed and claimed in 09/280,045 and the crossbar interconnections disclosed and claimed in 09/280,225.--

Please replace the paragraph beginning on page 2, line 29 with the following rewritten paragraph:

--The present inventors have developed new approaches to nanometer-scale devices, comprising crossed nano-scale wires that are joined at their intersecting junctions with bi-stable molecules, as disclosed and claimed in application Serial No. 09/282,048, filed on even date herewith. Wires, such as silicon, carbon and/or metal, are formed in two-dimensional arrays. A bi-stable molecule, such as rotaxane or pseudo-rotaxane, is formed at each intersection of a pair of wires. The bi-stable molecule is switchable between two states upon application of a voltage along a selected pair of wires.--

Please replace the paragraph beginning on page 7, line 23 with the following rewritten paragraph:

--In related patent application Serial No. 09/282,048, filed on even date herewith, a basic scheme for chemically synthesized and assembled electronic devices is provided. That application discloses and claims a quantum state switch, which comprises an adjustable tunnel junction between two nanometer-scale wires. In accordance with that invention, an electronic device is provided, comprising two crossed wires having nanometer dimensions, provided with functionalizing groups that control conductivity type of the wires. A plurality of such crossed wires may be assembled to provide a variety of different devices and circuits.--

Please replace the paragraph beginning on page 15, line 3 with the following rewritten paragraph:

--FIG. 7 presents an embodiment of a crossbar 44 which employs the molecular wire transistors 32, 38 of the present invention. The crossbar 44, which is disclosed and claimed in co-pending application Serial No. 09/280,225, filed on even date herewith (U.S. Patent 6,314,019), consists of a layer of vertical nanowires 12 and a layer of horizontal nanowires